ATTITUDE DETERMINATION AND CONTROL FOR STABILIZATION AND POINTING ACCURACY FOR 3U CLASS NANO-SATELLITE

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by

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LIST OF ABBREVIATIONS

2D Two Dimensions

3D Three Dimensions

1U 1-Unit Cube Satellite

2U 2-Units Cube Satellite

3U 3-Units Cube Satellite

AMR Anisotropic Magneto Resistance

AMS Alpha Magnetic Spectrometer

AC Attitude Control

AD Attitude Determination

ADS Attitude Determination System

ACS Attitude Control System

ADCS Attitude Determination And Control System

ADC Analog-To-Digital Converter

ARE Algebra Riccati Equation

ASP Austrian Space Program

ATSB Astronautics Technology Sdn.Bhd.

BRITE Bright Target Explorer

c.g Center Of Gravity

ECO Earth-Center Orbit

CHARM Cubesat Hydrometric Atmospheric Radiometer Mission

CHIME Cubesat Heliospheric Imaging Experiment

CSSWE Colorado Student Space Weather Experiment

CINEMA Cubesat for Ions, Neutrals, Electrons and Magnetic fields

COTS Commercial Of The Shelf

CDR Critical Design Review

CSSWE Colorado Student Space weather Experiment

DSP Digital Signal Processor

DCM Direction Cosine Matrix

DOD Depth of Discharge

ESOQ1 Estimator Of The Optimal Quaternion-1

ESOQ2 Estimator Of The Optimal Quaternion-2

ECI Earth Centered Inertial

ECEF Earth Centered Earth Fixed

EKF Extended Kalman Filter

ESOQ Estimator of Optimal Quaternion

ExEMFP Experimental Earth Magnetic Field Probe

ExPSS Experimental Pyramidal Sun Sensor

FOAM Fast Optimal Attitude Matrix

GUI Graphical User Interface

GMR Giant Magnetic Resistance

GEOS Geostationary Operational Environment Satellite

GPS Global Positioning System

IGRF International Geomagnetic Reference Field

InnoSAT Innovation Satellite

LEO Low Earth Orbit

LFT Linear Fractional Transformation

LKF Linearized Kalman Filter

LLA Latitude Longitude Altitude

LMI Linear Matrix Inequality

LPV Linear Parametric Varying

LQ Linear Quadratic

LQR Linear Quadratic Regulator

LQG Linear Quadratic Gaussian

LTI Linear Time Invariant

LTP Linearize Time-Periodic